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by a bolt 66. A shoulder 67 on the bolt 55 on the end of arm 53 is received in an aperture 68 in a side plate 69 of the guide 65 such that motion of the bolt 55 in the slot 56 causes rotation of the guide 65 on the bolt 66.

A lower tape guide 70 is pivotally attached to the lower end of the upper tape guide 65 by a pivot 71 upon which a roller 72 is also mounted. A tension spring 73 is attached at one end to an arm 74 on the other side plate 75 of the guide 65 and at its other end to an arm 76 on a side plate 77 of the guide 70 for urging guide 70 counterclockwise about pivot 71 for a purpose to be described.

A feed block 78 is attached to the guide 70 at its lower end between its side plates 77 and 79. A tape guide 80 is attached to the plate 26 beneath the guide 70. The tape 62 passes between the block 78 and the guide 80, finally passing over a tape applying wheel 81 journaled on a bolt 82 received in plate 26. The roller 72 and the block 78 are preferably formed of urethane, so that the gummed tape surface will not adhere to them.

Brake means for stopping the flow of tape are provided on the upper tape guide 65. Such means comprise a Z-shaped tape brake 83 which pivots on a pin 84 supported between the legs 69 and 75 of the guide 65. One leg 85 of the brake 83 is attached to the guide 65 by a spring 86. The other leg 87 abuts against a stop 88. The tape 62 is thus seen to pass over the roller 63, between the leg 87 and the brake stop 88, over the roller 72, between the feed block 78 and the tape guide 80 and over the wheel 81 by which it is applied to the surface.

A knife 89 for severing the tape 62 is mounted on a bracket 90 for movement toward and away from the wheel 81. The knife slides between two guides 91 attached to the plate 26. Movement of the blade 89 toward the wheel 81 to sever the tape 62 is caused by energization of a solenoid 92. Return of the blade is effectuated by a spring 93.

Control of the apparatus is obtained through an electrical circuit shown diagrammatically in FIG. 5. The circuit contains a manually operable switch 94 which may, for example, be a foot switch which upon closure activates a relay 95 having normally open contacts 96, 97. Closure of the contacts 96 provides a holding circuit for the relay 95 through a normally closed limit switch 98. Closure of contacts 97 closes a circuit to the solenoid 99 of the valve 24 to cause said valve to close and cut off the air to the cylinder 22.

Limit switch 98 is mounted on the upper plate 17a of the track 17 and is adapted to be engaged and opened by a switch operating member 100 extending outwardly from the face plate 27 when the carriage 25 has reached the desired limit of its forward travel on the track 17.

The solenoid 92 for the knife 89 is adapted to be energized upon closure of a normally-open switch 101. Such switch is also mounted upon the track plate 17a and is likewise operated by the switch operating member 100 but at a time prior to the engagement of such operating member with switch 98.

### OPERATION

The operation of the apparatus is as follows. When the operator steps on the foot switch 94, the relay 95 is activated to close relay contacts 96 and 97, thereby completing a holding circuit through limit switch 98 and operating valve 24 to cut off the air supply to the cylinder 22. The carriage 25 thus is permitted to move downwardly under the force of gravity until the tape applying wheel 81 contacts the surface to which tape is to be applied.

Lowering of the carriage 25 permits the operating plunger 37 of the valve 36 to extend downwardly and allow compressed air to enter the air motor 33 to advance the carriage 25. As the carriage 25 begins its movement on the track 17 (to the left as shown in FIG. 1), the end of the tape 62 which projected below the wheel 81 will be placed against the surface of the veneer so as to adhere to the veneer. Continued movement of the carriage 25 will thus cause a length of tape to be applied to the

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surface of the veneer. At a predetermined intermediate point of travel, the switch operating member 100 will trigger limit switch 101. This closes the circuit through the solenoid 92 causing the knife blade 89 to be projected to sever the tape 62. The carriage 25 continues to travel so that the severed end of the tape is rolled onto the veneer. The tape guide 80 prevents the tape from following the blade 89 as it is retracted.

As indicated earlier, means are provided to cause a sufficient amount of tape to be drawn from the roll 59 as to leave a short length extending beneath the tape applying wheel 81 for the start of the next tape applying operation. This is the result of the operation of the tape guides 65, 70 which will now be described.

As the carriage 25 moves from right to left (as shown in FIG. 1), the cam roller 51 is caused to ride up on the cam ramp 44 thereby causing the bolt 55 to be drawn upwardly in the slot 56 from the lower end 57 to the upper end 58 by reason of the construction previously described. At the beginning of a cycle, the upper tape guide 65 and lower tape guide 70 are in the linear relationship shown in FIG. 1. However, as the carriage 25 moves laterally and as the bolt 55 is moved upwardly in the slot 56, the guides 65, 70 pivot against the force exerted by spring 73 to the position shown in FIG. 3, the spring 73 urging the block 78 against the guide 80 so as to pinch the tape therebetween. This causes a length of tape 62 to be drawn from the roll 59 which length is greater than the distance between the upper end of the upper tape guide 65 and the tape applying wheel 81.

As indicated previously, the tape 62 is severed by the knife blade 89 prior to the time the carriage 25 reaches the end of its final stroke or pass, and this severing occurs while the tape guides 65, 70 are in their angular position. When the carriage is returned to its original position, the tape guides 65, 70 assume their original linear position relative to one another. The tape 62 adheres to the block 78 causing the end of the tape to be projected downwardly over the tape applying wheel 81 to extend therebeneath for the purposes hereinbefore described.

As the carriage 25 reaches the end of its travel on track 17, limit switch 98 is opened by the switch operating member 100. This breaks the circuit through the relay 95, causing switches 96, 97 to open and permitting valve 24 to return to its normal position. This permits air to enter the cylinder 22 to raise the piston 23 and thereby the carriage 25.

As the carriage 25 is elevated, the plunger 37 is urged upwardly by the pad 39, returning the valve 36 to its normal position and causing the piston 32 to retract into the cylinder 34. Such returns the carriage 25 to its original position as shown in FIG. 1.

In using the apparatus of the invention, a veneer to be patched is placed on a table beneath the apparatus and shifted so as to position a patch or crack beneath the stroke of the apparatus. The apparatus is then operated to apply the tape and the veneer is shifted to the next position. This can be done easily and quickly, and panels may be patched at much less expense than by any of the procedures heretofore utilized. Obviously the apparatus has utility in applying tape to other surfaces.

I claim:

1. Apparatus for applying a pressure-sensitive adhesive tape to a surface comprising

- a frame;
- a pair of arms pivotally attached to said frame;
- a track pivotally attached to said arms;
- a carriage adapted to travel on said track and support a supply of pressure-sensitive tape in a continuous strip above said surface with the end portion of said strip extending beneath said carriage;
- means attached to said frame and to said track for selectively lowering and raising said carriage parallel to said frame to bring said end portion of said strip into contact with said surface;